

Higher National Unit Specification

General information for centres

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

Unit code: DW71 34

Unit purpose: This Unit has been designed to enable candidates to examine a range of issues involved in being an effective engineering supervisor including identifying the roles and responsibilities of modern supervisors, building effective teams and being a good team leader. The Unit also provides candidates with an opportunity to develop a Continuing Professional Development Action Plan with a particular focus on satisfying supervisory development needs.

On completion of the Unit the candidate should be able to:

- 1 Explain the roles and responsibilities of an engineering supervisor.
- 2 Explain the approaches to developing an effective team.
- 3 Produce a Personal Continuing Professional Development Action Plan.

Credit points and level: 1 HN Credit at SCQF level 7: (8 SCQF credit points at SCQF level 7*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Recommended prior knowledge and skills: Entry is at the discretion of the centre however candidates should have good communication skills. These may be demonstrated by achievement of Core Skill Communication at Higher level or by possession of Higher English and Communication or HN Unit: D77G 34 Communication: Practical Skills. It would also be beneficial if candidates have some work experience but this is not essential.

Core Skills: There are opportunities to develop the Core Skills of Reading Communication, Written Communication, Oral Communication, Critical Thinking, Planning and Organisation, Review and Evaluation and Working with Others at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

General information for centres

Assessment: Outcomes 1 and 2 may be assessed by a closed book assessment paper with questions based on a Case Study of an engineering organisation. The assessment of Outcome 3 can be a Continuing Professional Development Action Plan which focuses principally on the candidate's development as an engineering supervisor.

An example instrument of assessment and marking guidelines has been produced to show the national standard of achievement at HN level 7.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Explain the roles and responsibilities of an engineering supervisor

Knowledge and/or skills

- ◆ Roles and responsibilities
- ◆ Comparison of supervisory versus management role
- ◆ Organisational context of supervision

Outcome 2

Explain the approaches to developing an effective team

Knowledge and/or skills

- ◆ Team dynamics
- ◆ Belbin Team-Roles
- ◆ Team leadership

Evidence Requirements

Evidence for the knowledge and/or skills items in Outcomes 1 and 2 should be provided on a sample basis. The evidence may be presented in responses to specific questions. Each candidate will need to demonstrate that she/he can answer correctly questions based on a sample of the knowledge and/or skills items listed in the Outcomes. In any assessment of the Outcomes, **two out of three** knowledge and/or skills items should be sampled from Outcome 1 and **two out of three** knowledge and/or skills items should be sampled from Outcome 2.

Where sampling takes place, a candidate's response can be judged to be satisfactory where evidence provided is sufficient to meet the requirements for each item by showing the candidate is able to for:

Higher National Unit specification: statement of standards (cont)

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

Outcome 1

- ◆ explain the roles and responsibilities of the engineering supervisor
- ◆ compare the roles and responsibilities of supervisors and managers in an engineering organisation and identify similarities and differences between them
- ◆ explain the organisational context within which engineering supervisors work
- ◆ explain the impact that two aspects of organisational context may have on the work of an engineering supervisor

Outcome 2

- ◆ explain the dynamics that operate within a team
- ◆ explain Belbin Team-Roles theory and how it can be used to explain the effectiveness of a particular team
- ◆ explain two different approaches to leadership and relate them to a particular situation
- ◆ analyse the effectiveness of a team leader in a particular situation

Assessment evidence should be gathered by candidates answering questions on a Case Study that relates to supervisory issues in an engineering organisation. Candidates should be allowed two hours to answer the Case Study questions. The assessment should be conducted at a single assessment event under supervised, controlled conditions. It should also be conducted under closed book condition in which the candidate is not allowed to bring any notes, handouts, books etc. into the assessment.

Assessment guidelines

The Case Study could be based around a team in an engineering organisation which the candidate has just been asked to lead. The Study could provide some details of the engineering organisation, including organisational structure to allow the candidate to position her/his team within the organisation as a whole. Details of the team could be provided to allow the candidate to make use of Belbin. It is recommended that candidates are allowed 30 minutes to read the Case Study in addition to the two hours to answer the questions.

Outcome 3

Produce a Personal Continuing Professional Development Action Plan

Knowledge and/or skills

- ◆ Learning styles
- ◆ Systems for recognising CPD
- ◆ Qualifications frameworks/range of qualifications available in vocational/professional area
- ◆ Sources of learning

Higher National Unit specification: statement of standards (cont)

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

Evidence Requirements

All knowledge and/or skills items in this Outcome must be assessed.

Evidence should be generated by candidates preparing a Continuing Professional Development Action Plan. In producing their Action Plans candidates should demonstrate that they have taken into account:

- ◆ a recognition of their own preferred learning style
- ◆ any system (s) of CPD available through their company and/or a professional body they belong to
- ◆ a knowledge of qualifications in both vocational and professional areas relevant to their own future vocational and professional development
- ◆ two different sources of learning available to them and matched each source to their own preferred learning style and employment and personal commitments

The Plan should be produced in the candidates own time with the lecturer acting in an advisory capacity especially with regard to accessing sources of information. The Action Plan must include specific reference to the candidate's supervisory developments needs and may set these needs within the broader context of the candidate's longer term professional development.

Candidates may be asked supplementary oral questions where there Action Plan does not fully cover all of the knowledge and skills items.

Centres should make every reasonable effort to ensure that an Action Plan is the candidate's own work. Where copying or plagiarism is suspected candidates may be interviewed to check their knowledge and understanding of the subject matter. A checklist should be used to record oral evidence of the candidate's knowledge and understanding.

Assessment guidelines

The format of the Continuing Professional Development Action Plan is a matter for centres to decide. Centres may choose to give candidates some freedom as to the format they use or may prescribe the format.

It is recommended that the Action Plan covers the next three to five years of a candidate's career development as it would appear nowadays that for many people this is the length of career that can be predicted with reasonable certainty.

With regard to supervisory development needs, the candidate should place a strong focus on these in her/his Action Plan since these represent short term development needs. However, she/he may also identify in outline longer term managerial or other development needs to signify, for example, her/his aspiration to seek promotion from a supervisory to a management level.

Administrative Information

Unit code: DW71 34

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

Superclass category: XA

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Higher National Unit specification: support notes

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

It is important to emphasise at the outset that this Unit has been written principally for candidates studying at advanced engineering craft level and it is essential that in delivering the Unit centres pitch the Unit at the current level of knowledge and understanding of such candidates. However, centres should encourage candidates to explore further the issues raised in the Unit by reading appropriate paper based and electronic materials.

The overall context for the Unit is as follows:

- 1 In Outcomes 1 and 2 candidates should be provided with opportunities to develop knowledge, understanding and undertake some limited applications of the role of an engineering supervisor/team leader in an engineering organisation.
- 2 In Outcome 3 candidates should use the knowledge and understanding developed in the first two Outcomes to construct a Continuing Professional Development Action Plan which focuses principally on candidates' supervisory development needs. However, some limited longer term professional development planning should also be encouraged to instil in candidates the value of CPD action planning throughout their careers.

Outcome 1 has been designed to examine the role of the supervisor in modern engineering companies and to compare this role with that of a manager. In examining the supervisory role it will be important to take account of changes in industry such as the current predominance of SME (Small and Medium Size Enterprises), flatter organisational structures, greater emphasis on team working and the raft of issues and legislation that exists around employer/employee relations nowadays. The role of the supervisor should be set within this context recognising that with flatter organisational structures the roles and responsibilities of the supervisor and manager are becoming increasingly blurred.

Outcome 2 will provide candidates with the opportunity to explore the dynamics of teams, such as the forming, storming, norming and performing model, and what makes an effective team. Lecturers should introduce candidates to Belbin's team role model. It may be helpful if the candidates undertook the Belbin analysis to determine their predominant team role characteristic(s). Lecturers should also explore the impact of organisational culture and climate on the operation of teams. This Outcome also provides candidates with the opportunity to explore what makes a good team leader. There are an increasing number of leadership models available. However, these should not simply be taught for teaching sake but rather used to identify the primary qualities of a good team leader.

Higher National Unit specification: support notes (cont)

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

Outcome 3 is included in the Unit to introduce candidates to the concept of Continuing Professional Development: something that will be important to their career as a supervisor and beyond. In order to allow candidates to produce their own Continuing Professional Development Action Plan lecturers should explore with the candidates issues around learning theories, learning styles, CPD recognition systems, qualifications available and different approaches to undertaking learning (eg traditional attendance at an academic institution, open and distance learning, on-line learning etc). Candidates should be encouraged to identify their own preferred learning style.

In constructing their Action Plans candidates should be encouraged to be both self-evaluative and self-critical identify not only their strengths but also areas for development. Such areas for development may involve acquiring knowledge, understanding and skills in new technical or supervisory areas (eg lean manufacturing processes, understanding implications of new organisational Human Resource policy etc). They may, on the other hand, involve the development of personal qualities or skills (eg improving listening or assertiveness skills).

It is important that candidates are made aware that not all areas of development can be improved by simply attending a formal staff development programme. In areas where formal staff development is not available, candidates should be encouraged to think what processes they will put in place to make improvements and how they will monitor and evaluate any improvements.

Guidance on the delivery and assessment of this Unit

Unit delivery should involve an appropriate blend of lecturing, group work, role play, case studies and investigative work. Centres may use different forms of presentation materials such as Power point presentations, videos and DVDs to exemplify certain areas of the Unit, for example, team building. Centres may also choose to invite guest speakers to deliver some specialist areas of the Unit.

Centres should encourage candidates to read extensively on subjects such as supervision, team building, team working, leadership, learning theories and learning styles. Such reading will help to develop further candidates reading skills. There are a range of good materials available on the Internet in areas such as supervision, team working, leadership and learning to support the delivery of this Unit.

Candidates should also be encouraged as far is practicable to work in groups so that they can understand at first hand how team building may work in practice. Such team working may also help candidates to develop their Oral Communication and Working with Others Core Skills.

Lecturers should also challenge candidates current thinking on the range of issues covered in this Unit, asking questions and suggesting alternative approaches where appropriate. This approach should help to develop candidate Critical Thinking skills.

The Continuing Development Action Plan should also provide candidates with opportunities to develop their Planning and Organisational and Review and Evaluation skills.

Higher National Unit specification: support notes (cont)

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

Candidates with employment experience especially in a supervisory capacity should be encouraged to share their experiences with other candidates in the class, so that teaching and learning can be set within a practical context.

Information on Evidence Requirements and Assessment guidelines is given after Outcomes 2 and 3 in the Higher National Unit specification: statement of standards section. Centres are advised to read these Evidence Requirements and Assessment guideline sections carefully before embarking on assessment.

Opportunities for developing Core Skills

There are opportunities to develop the Core Skills of Reading Communication, Written Communication, Oral Communication, Critical Thinking, Planning and Organisation, Review and Evaluation and Working with Others at SCQF level 6 in this Unit, although there is no automatic certification of Core Skills or Core Skills components.

Open learning

This Unit could be delivered by distance learning, which may incorporate some degree of on-line support. However, with regards to assessment, planning would be required by the centre concerned to ensure the sufficiency and authenticity of candidate evidence. Arrangements would be required to be put in place to ensure that the combined assessment for Outcomes 1 and 2 was conducted under controlled, supervised conditions.

To keep administrative arrangements to a minimum, it is recommended that for distance learning candidates the Case Study assessment paper is taken at a single assessment event.

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Alternative Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs*, which is available on SQA's website: www.sqa.org.uk.

General information for candidates

Unit title: Engineering Supervision: Teamworking and Continuing Professional Development

In this Unit you will be encouraged to examine the critical role of the supervisor within a modern engineering company. This role is constantly changing and may nowadays embrace strong elements of team working and team building.

In Outcome 1 you will look at what is meant by the role of a supervisor and how it fits in with the management role. In Outcome 2 you will explore what makes good and bad teams and what makes a good team leader. In Outcome 3 you will be encouraged to think about your career development, especially with regard to an engineering supervisory role, by developing a Continuing Professional Development Action Plan.

It is likely that your lecturer will use a variety of teaching and learning methods when delivering this Unit, including lecturing, group work, case studies and investigative work. Your lecturer is likely to ask you to make extensive use of the Internet and other sources of information to investigate certain subjects in the Unit.

Assessment in the Unit will comprise of a Case Study covering the work of Outcomes 1 and 2 which you will sit at a single assessment event lasting two hours conducted under controlled, supervised conditions. For Outcome 3 you will have to develop a Continuing Professional Development Action Plan which will focus on your engineering supervisory and other development needs. Ask your lecturer for more details about assessments and at what points in Unit delivery they take place.